Index to Volume XLIII

January---December, 1915

A

Accidents, Eye 125
Accidents, Foundry, Intoxication, a Cause of 267
Acid Bath for Cleaning Castings..... 233
Adjustable Hand Ladle Skimmer..... 80
Adjustable Saw Guard..... 126
Agricultural Castings Made at Minimum Cost 85
Air Hoist Valve..... 75
Air, Insufficient, for the Cupola..... 102
Air Meter, Automatic, for Foundries..... 168
Alloy, Aluminum, No. 31..... 278
Alloy, Cooking Utensil..... 234
Alloy, Copper, An Unusual..... 461
Alloy, Hard Copper 196
Alloy Shrinkages 278
Alloy, Standard Railroad Car - Bearing, Need of 457
Alloys, Aluminum Bronze, Properties of.. 459
Alloys, Copper, Fatigue of..... 311
Alloys, Copper-Aluminum 194
Alloys, Formulas for Specific Gravity, Etc., of .....Data Sheet No. 188, June
Alloys, Non-Ferrous, Brinell Hardness—Testing of 111
Aluminum Alloy for Match-Plates..... 279
Aluminum Alloy, Strong 71
Aluminum and Cast Iron Welding Sticks. 234
Aluminum Bronze Alloys, Properties of... 459
Aluminum Bronze, Effect of Magnesium in 30
Aluminum Bronze, High Tensile..... 196
Aluminum Bronze, Soldering 196
Aluminum Bronze, Titanium 160
Aluminum Chips Are Recovered by Melting, How 462
Aluminum, Die Casting, Commercially.... 456
Aluminum Match-Plates, Difficulties With. 113
Aluminum, Melting, for Match-Plates..... 31
Aluminum Mixtures for Match-Plates..... 195
Aluminum, Nos. 12 and 31..... 461
Aluminum, Overheating 373
Aluminum Production Grows 500
Aluminum, Removal of, from Turnings.... 278
Aluminum, Removing Iron From..... 31
Aluminum Turnings and Borings, Recovery of 195
American Electroplaters' Society, Annual Meeting of 284
American Foundrymen's Association, Atlantic City Meeting of..... 163
American Foundrymen's Association, Foundrymen Prepare for Atlantic City Meeting 285
American Foundrymen's Association, 1916 Meeting of 513
American Foundrymen's Association, Program 337
American Foundrymen's Association, Report of Annual Meeting..... 385
American Foundrymen's Association Standard Cost System, Revision of..... 7
American Institute of Metals, Meeting of. 394
American Institute of Metals, Program... 338
American Institute of Metals, Program of. 285
American Society for Testing Materials, Meeting of 127
American Society for Testing Materials, Recommended Practice for Heat-Treating Case-Hardened Carbon-Steel Objects.... .....Data Sheet No. 182, March
American Society for Testing Materials, Recommended Practice for the Annealing of Carbon-Steel Castings..... .....Data Sheet No. 181, March
American Society for Testing Materials, Specifications for Government Bronze... 260
American Society for Testing Materials, Specifications for Malleable Iron Castings 259
American Society for Testing Materials, Standard Specifications for the Foundryman 258
American Society for Testing Materials, Tentative Methods—Sampling Pig and Cast Iron 259
American Society for Testing Materials, Tentative Specifications for Foundry Coke 260
An Analysis of the Foundry Cost..... 8
Analysis and Shrinkage, Comparison of... 58
Analysis, Physical Properties Vs..... 120
Angles, Chords of, From One to Ninety Degrees ....Data Sheets Nos. 195 and 196, Oct.
Annealing Car Wheels 187
Annealing Effect on Light Gray Iron Castings 219
Annealing Gray Iron Castings..... 188
Annealing of Carbon-Steel Castings, Recommended Practice for..... .....Data Sheet No. 181, March
Anodes, Scrap Nickel, Welding..... 283
Anti-Acid Metal 114
Application of Scientific Management—I... 440
Application of Scientific Management—II.. 503
Arbor, Patternmaker's 489
Arc-Welding Applied to Foundry Work... 139
Atomizing Fuel Oil With Steam and Air, Tests in 424
Automatic Air Meter for Foundries..... 168
Automobile Engine Castings, How to Make 291

B

Babbitt Metal, Recovering..... 195
Babbitt Metal, Yellow Color on..... 71
Babbitt Mixture, Genuine..... 373
Base Plate Pattern, An Inexpensive..... 466
Base Plates and Core Trays, Steel..... 208
Bearings, Cracked 159
Bearings, Die-Cast, Mixture for..... 158
Berger Mfg. Co., Pressed Steel Work Cabinet 433
Binder for Cylinder Cores..... 240
Blast Pressures, Cupola Bed and..... 98
Blow-Holes and Sulphur 95
Blow-Holes, Finding, With the X-Rays... 455
Blow-Holes in a Casting..... 262
Blow-Holes in Bronze Castings..... 31
Blow-Holes in Castings With Remedies for Preventing Them, Other Solutions of Foundry Difficulties 304
Blower and Exhauster, Volume..... 126
Blystone Mfg. Co., Install Blystone Mixers 310
Boiler and Greenhouse Parts are Molded, How 249
Borings and Turnings, Aluminum, Recovery of 195
Boshed Cupola Lining, Straight or..... 183
Brass and Bronze, Fluxes for..... 234
Brass Bushings, Porous..... 501
Brass, Casting, Onto Iron..... 113
Brass, Casting, Under Modern Conditions. 129
Brass Castings, Bright Surface on..... 114
Brass Castings, Core Binders for..... 233
Brass Castings, Cores for..... 196
Brass Castings, Dirt Spots in..... 372
Brass Castings for High Pressures..... 196
Brass Castings, How to Brighten..... 501
Brass Castings, Making, With Emergency Equipment 232
Brass Castings, Porous..... 157
Brass Castings, White Spots on..... 460
Brass Facing Mixture..... 30
Brass Ferrules, A Few Difficulties With.. 234
Brass Foundry Waste, Reclaiming..... 191
Brass Furnace Cover, A Simple..... 246
Brass Furnaces, Natural Gas-Fired, Tests of 153
Brass Liners, Top-Pouring..... 231
Brass Melting and Refining Furnace..... 40
Brass, Melting, in the Cupola..... 278
Brass Onto Steel, Difficulties of Casting. 461
Brass Ornaments 373
Brass Pattern Runner 159
Brass Plant, Team Work in a..... 279
Brass, Scrap, Use of..... 234
Brass Tube Scrap, Use of..... 195
Brass Turnings, Red, Improper Use of.. 372
Brass Turnings, Use of..... 195
Brass Work, Sand Suitable for..... 373
Brass, Yellow, for Light Work..... 158
Brass, Yellow, Scratch-Brushing..... 195
Brass, Yellow, Trap Covers, Difficulties With 29
Brazing Outfit for Narrow Band Saws... 317
Bridging of a Cupola..... 310
Bright Surface on Brass Castings..... 114
Brinell Hardness-Testing of Non-Ferrous Alloys 111
Britannia Metal 192
British Foundrymen Abandon Convention. 127
British Foundrymen's Association, Annual Meeting of 28
British Institute of Metals, Annual meeting of 193
Bronze, Acid-Resisting, Deoxidizing..... 70
Bronze, Aluminum, High Tensile..... 196
Bronze, Aluminum, Soldering..... 196
Bronze Cannon 70
Bronze Castings, Blow-Holes in..... 31
Bronze Castings, Casting Steel Chills in.. 513
Bronze, Fluxes for Brass and..... 234
Bronze, Government, Specifications for... 260
Bronze, How Titanium-Aluminum, is Produced 273
Bronze, Manganese, High Tensile..... 159
Bronze, Manganese, Melting..... 113
Bronze Mixtures Made by Titanium Alloy Mfg. Co. 379
Bronze, Plastic, Analysis..... 372
Bronze Sleeves, Casting..... 194
Bronze Tablets, Making..... 158
Bronze, Titanium Aluminum..... 160
Bronze, Tobin 71
Bronzes, Nickel and Hydraulic..... 159
Brown & Sharpe Mfg. Co., Annealing Oven 188
Brown Specialty Machinery Co. Makes Sand-Blast Equipment..... 174
Brown Specialty Machinery Co., Revolving Barrel Sand Blast Machine..... 246
Burr Co., Use of Manganese Ore..... 92
Bushings, Brass, Porous..... 501
Bushings, Difficulties in Making..... 70
Bushings, Mixtures for..... 157
Bushings, Shrinkage of..... 31

BOOK REVIEWS:
Elements of Foundry Laboratory Practice. 266
Hendrick's Commercial Register of the United States 444
Patternmaking 215
Practical Iron Founding..... 81
Safety in the Foundry..... 512
The A B C of Iron and Steel..... 163
The Manufacture of Iron and Steel..... 125

C

Cabinet, Pressed Steel Work..... 433
Cadillac Motor Car Co., Molding the New Cadillac Eight-Cylinder Motor..... 171
Cannon, Bronze 70
Car, Pig Iron Charging..... 40
Car Wheel Iron, Comments on Fuel Ratio for 97
Car Wheel Iron, Fuel Ratio on..... 51
Car Wheels, Annealing..... 187
Car Wheels, Chilled..... 469
Car Wheels, Making, at Lenoir Car Works—I 351
Car Wheels, Making, at Lenoir Car Works—II 428
Car Wheels, Making, at Lenoir Car Works—III 436
Car Wheels, Shrinkage Cracks in..... 280
Carbon, Determining, in Cast Steel Rapidly 151
Carbon-Steel Castings, Recommended Practice for the Annealing of..... .....Data Sheet No. 181, March
Carbon-Steel Objects, Recommended Practice for Heat-Treating Case Hardened .....Data Sheet No. 182, March
Carborundum Co., Panama-Pacific Carborundum Exhibit 103
Cast Iron and Aluminum Welding Sticks. 234
Cast Iron, Chill and Shrinkage of..... 304
Cast Iron, Malleable, Novel Tests of.... 13
Cast Iron, Method for Controlling Chill in 491
Cast Iron, Molten, The Surface of..... 365
Cast Iron, Strong..... 294
Cast Iron, The Corrosion of Steel and, Compared 467
Cast Vs. Forged Shrapnel Casing..... 298
Cast Zinc 232
Casting Brass Onto Iron..... 113
Casting Brass Onto Steel, Difficulties of.. 461
Casting Brass Under Modern Conditions. 129
Casting Bronze Sleeves..... 194
Casting Iron Around Pipe..... 241
Casting Plants, Good Light — A Safety Factor in 216
Casting Plants, New York State Rules Governing 295
Casting Service for Uncle Sam's Bulldogs. 211
Castings, Acid Bath for Cleaning..... 233
Castings, Agricultural, Made at Minimum Cost 85
Castings, Brass, Bright Surface on..... 114
Castings, Brass, Core Binders for..... 233
Castings, Brass, Cores for..... 196
Castings, Brass, Dirt Spots in..... 372
Castings, Brass, for High Pressures..... 196
Castings, Brass, How to Brighten..... 501
Castings, Brass, Making With Emergency Equipment 232
Castings, Brass, White Spots on..... 460
Castings, Bronze, Blow-Holes in..... 31
Castings, Carbon - Steel, Recommended Practice for the Annealing of..... .....Data Sheet No. 181, March
Castings, Copper, Solid..... 501
Castings, Electric Steel, Made on Large Scale 1
Castings, Gray Iron, Annealing..... 188
Castings, Gray Iron, Shot in..... 103
Castings, High Silicon..... 474
Castings, Iron, Polishing..... 70
Castings, Light Gray Iron, Annealing Effect on 219
Castings, Phosphor-Bronze, Cores for..... 461
Castings, Porous Brass..... 157
Castings, Rough Drum..... 397
Castings, Rough, Perpetual Inventory of, 481
Castings, Shrink Holes in..... 272
Castings, Slush, Snelter Impurity in..... 494
Castings, Spongy Piston..... 482
Castings, Steel, Core Mixture for..... 20
Castings, Steel, Shrinkage Cracks in..... 411
Castings, Vanadium Iron, Interesting Tests of 179
Castings, White Cores in..... 475
Castings, Would the, Have Come Straight? 19

Central Foundry Supply Co.'s New Line. 200
Challenge Machine Co., Wet and Dry Grinder 39
Champion Foundry Machinery Co., An Electrically Driven, Portable Sand Riddle 325
Chaplet, One-Piece 243
Charcoal as Cupola Fuel..... 365
Charcoal as Fuel for Cupola Melting..... 303
Checker Design for Open Hearths..... 413
Chicago Safe & Merchandise Co., Exhibition Furniture 218
Chill and Shrinkage of Cast Iron..... 304
Chill-Cast Bars, Piping for..... 373
Chilled Car Wheels..... 469
Chill Gray Iron, To..... 475
Chilling, To Avoid..... 20
Chill, Method for Controlling, in Cast Iron 491
Chipping Boss as an Optimist..... 463
Chords of Angles From One to Ninety Degrees ....Data Sheets Nos. 195 and 196, Oct.
Clamp, Adjustable Foundry..... 169
Clamp, A Handy Flask..... 242
Clarage Fan Co..... 52
Clarage Fan Co., Volume Blower and Exhauster 126
Classification, Commercial, of Refined Copper 32
Classification of Old Metals..... 312
Clothing, Asbestos 433
Clothing, Proper, Prevents Injury..... 375
Coale, Thomas E., Lumber Co., House Organ "Lumber" 160
Coatings, Protective, for Iron and Steel —II 35
Coke, Foundry, Tentative Specifications for 260
Commercial Classification of Refined Copper 32
Common Sense, Steel Foundryman's Great Asset 175
Commonwealth Steel Co., Commendable Action 52
Comparison of Analysis and Shrinkage... 58
Compressor, Air, Steam-Driven..... 509
Compressor, Small Steam-Driven Air..... 289
Compressors, Molding Air, on Jolt-Rammers 18
Concrete Foundry Buildings..... 178
Continuous Operations, Two-Story Foundry for 185
Controllers, Selection of Electric Motors and 60
Cooking Utensil Alloy 234
Cooper, H. W., Saddlery Hardware Mfg. Co., Cooper Squeezer Molding Machine. 330
Co-Operation, Departmental, in Foundry Work 121
Copper Alloy, An Unusual..... 461
Copper Alloy, Hard..... 196
Copper Alloys, Fatigue of..... 311
Copper-Aluminum Alloys 194
Copper and Molybdenum..... 344
Copper Castings, Solid..... 501
Copper Cyanide Plating Solutions..... 197
Copper Cyanide, The Economy and Efficiency of 199
Copper, Effect of Repeated Remelting on. 71
Copper, Lake Superior and Electrolytic.. 69
Copper Melting Difficulties..... 158
Copper, Refined, Commercial Classification of 32
Copper, Use of Silicon in..... 31
Core Binders for Brass Castings..... 233
Core, Green or Dry Sand..... 397
Core Mixture for Steel Castings..... 20
Core Print Rack, Foundry..... 454
Core Sticks, Soft Wood..... 433
Core Trays and Base Plates, Steel..... 208
Cores, Cylinder, Binder for..... 240
Cores for Brass Castings..... 196
Cores for Phosphor-Bronze Castings..... 461
Cores, Machine-Made 160
Cores, Making, for an Intricate Casting.. 143
Cores, Mixtures for 196
Cores, The Proper Use of, in Modern Molding 470
Cores, White, in Castings..... 475
Corrosion of Steel and Cast Iron Compared 467
Cost, Agricultural Castings Made at Minimum 85
Cost, Foundry, An Analysis of the..... 8
Cost Standards, Uniform, Urges Adoption of 451
Cost System, A. F. A., Standard, Revision of 7
Coupling, Compressed Air Hose..... 329
Cover, Brass Furnace, A Simple..... 246
Covers, Trap, Difficulties with Yellow Brass 29
Cracked Bearings 159
Crane Co., First Use of Eye Protectors... 209
Crane Delivery, Record..... 127
Crane, Revolving, For Handling Slag..... 123
Crane Sand Cutting and Tempering Machine 77
Cranes, Fifty Safety Rules for the Operation of 16
Cupels, Dixon 188
Cupola, An Answer to Slow Melting in the 180
Cupola Bed and Blast Pressures..... 98
Cupola Blast Pipes, Use of Relief Valves on 26
Cupola, Bridging of a..... 310
Cupola, for a Small Shop..... 239
Cupola Fuel, Charcoal as..... 365
Cupola, Insufficient Air for the..... 102
Cupola Lining Burning-Out, Slow Melting and 183
Cupola Lining, Straight or Boshed..... 183
Cupola, Melting Brass in the..... 278
Cupola Melting, Charcoal as Fuel for..... 303
Cupola Melting, Slow 167
Cupola, Operating the, on a Scientific Basis 322
Cupola, Operating the, With Fuel Oil.... 224
Cupola Operations, How to Increase Safety of 445
Cupola Practice, Some Points on..... 17
Cupola Room Passes Away, An Old Time. 241
Cupola, Slow Melting in the..... 106
Cupola, Temperature of 123
Cupolas, Regulating the Height of Fuel Bed in 28
Cupolas, Small, Large Heats Made in.... 241
Curtis, Hobart W., Adjustable Saw Guard 126

D

Deere, John, & Co., Agricultural Castings Made at Minimum Cost..... 85
Defects in Steel Castings, How to Eliminate 146
Deoxidizing Acid-Resisting Bronze..... 70
Departmental Co - Operation in Foundry Work 121
Determining Carbon in Cast Steel Rapidly 151
Detroit Foundrymen's Association..... 40
Detroit Metal Refining Co..... 381
Diameters, Outside, for Polygons..... ....Data Sheets Nos. 197 and 198, Nov.
Dickson Car Wheel Co., Revolving Crane For Handling Slag..... 123
Die Casting Aluminum Commercially..... 456
Die-Casting Mixtures 372
Difficulties in Making Bushings..... 70
Difficulties With Aluminum Match-Plates.. 113
Difficulties With Yellow Brass Trap Covers 29
Dirty Iron 230
Dixon, Joseph, Crucible Co. Cupels..... 188
Drawings, Working, Suggestions for Reading 464
Drill, Close Quarter 329
Drill, Wall Type Radial..... 127
Dross, Elimination of..... 71
Drying Molds and Cores and for Heating Ladles in English Foundries, How Producer Gas is Used for..... 229
DuPont, E. I., de Nemours Powder Co., Nitre Cake for Pickling..... 289
Dust Arrester, Cloth Screen..... 331
Dust, How State Laws Compel Removal of 43
Dyer Apparatus Co., Novel Welding Operation 190
Dynamic Qualities of Cast Steel..... 417

E

Economy and Efficiency of Copper Cyanide 199
Edison and the Incandescent Lamp..... 404
Educating Steel Foundry Molders..... 52
Effect of Magnesium in Aluminum Bronze 30
Effect of Repeated Remelting on Copper.. 71
Efficiency in the Plating Room..... 360
Electric Furnace for England..... 178
Electric Furnace in Operation..... 454
Electric Furnace Installed..... 469
Electric Furnace in the Foundry..... 164
Electric Hoist 169
Electric Steel Castings Made on Large Scale 1
Electric Steel Co., Heroult Electric Furnaces For Foundry Use..... 225
Electric Steel for Munitions..... 433
Electrical Manufacturer's Business, Holding an 96
Electroplaters, Cleveland 167
Elimination of Dross..... 71
Emery Tool Grinder for Patternmakers... 300
Engine, Gasoline, How Institute Students Cast a 99
Exhauster, Volume Blower and..... 126
Exhibitors and What They'll Exhibit..... 341
Exhibits at Foundry Convention Attract Interest 399
Eye Accidents 125
Eye Protectors, First Use of..... 209
Eye Protectors, Proper..... 59

EDITORIALS:

A Reason for Going..... 378
An Experimental Foundry..... 472
Application of Uniform Costs..... 473
Castings for Machine Tools..... 244
Coke Production in 1914..... 473
Co-Operation Among Societies..... 432
Extended Credits vs. Forced Discount.... 124
Foundry Trade in Retrospect..... 38
Non-Ferrous Metal Output..... 286
Organized Foundry Labor..... 166
Paying for Pig Iron..... 76
Pig Iron Output in 1914..... 166
Pipe Production 76
The Atlantic City Meeting..... 326
Trade Outlook 76
Trade Outlook 124
Trade Outlook 166
Trade Outlook 206
Trade Outlook 244
Trade Outlook 286
Trade Outlook 326
Trade Outlook 378
Trade Outlook 432
Trade Outlook 472
Trade Outlook 508

F

Facing Mixture, Brass 30
Fatigue of Copper Alloys..... 311
Ferrules, Brass, A Few Difficulties With.. 234
Fifty Safety Rules for the Operation of Cranes 16
First Aid Jar, Light and Practical, for Shops 72
Fittings, Water, Mixtures for..... 158
Flask Clamp, Handy..... 242
Flux to Prevent Gas Holes..... 266
Fluxes for Brass and Bronze..... 234
Foaming Slag 28
Follow-Up System, A Practical, for the Foundry 319
Formulas for Specific Gravity, Etc., of Alloys.....Data Sheet No. 188, June
Foundations for Jar-Ramming Molding Machines 420
Foundry, A New, for Making Machinery Castings 281
Foundry, A Promise-Keeper for the..... 227
Foundry Buildings, Concrete 178
Foundry Business, Where are the Profits in the 74
Foundry Difficulties, Solutions of..... 304
Foundry Engineer, Opportunities for the. 63
Foundry Equipment is Properly Controlled, How 201
Foundry, Floating, of the U. S. S. Vestal 211
Foundry, How the Product of, is Inspected 222
Foundry, How to Increase the Output of Your 93
Foundry, Operating a, on a Scientific Basis—III 21
Foundry, Operating a, on a Scientific Basis—IV 53
Foundry, Operating a, on a Scientific Basis—V 107
Foundry Operations, Pennsylvania's Control of 479
Foundry Operations, Recent Improvements in,—I. 483
Foundry Practice, Teaching, by Mail..... 65
Foundry, Putting One Over on the..... 145
Foundry, Success and Failure in the..... 297
Foundry, The Metamorphosis of the..... 415
Foundry, Two-Story, for Continuous Operations 185
Foundry Work, Departmental Co-Operation in 121
Foundry Work, Training in, That is Worth While 405
Foundryman, Brass, Practical Hints for the 112
Foundryman, Master, at 77 Years, Jesse E. Miller— 354
Foundrymen's Meeting at Atlantic City... 334
Fuel Oil for Foundry Use..... 224
Fuel Oil Furnace Difficulties..... 30
Fuel Oil, Operating the Cupola With..... 224
Fuel Oil, Tests in Atomizing, With Steam and Air 424
Fuel Ratio for Car Wheel Iron, Comments on 97
Fuel Ratio on Car Wheel Iron..... 51
Furnace, Brass Melting & Refining Furnace 40
Furnace, Fuel Oil, Difficulties..... 30
Furnace Practice, Air, Standardizing..... 412
Furnace, The Electric, in the Foundry.... 164
Furnaces, Heroult Electric, for Foundry Use 28
Furnaces, Natural Gas-Fired Brass, Tests of 153

G

Gaiter and Legging, Combination..... 140
Gas Holes, Flux to Prevent..... 266
Gates and Risers, Mushroom..... 69
Gear Tooth Jig 243
Gear Wheels, Making Small, by a Novel Method 161
General Electric Co., Improved Oil Switch 328
General Industrial Notes..... 42
General Industrial Notes..... 84
General Industrial Notes..... 128
General Industrial Notes..... 170
General Industrial Notes..... 209
General Industrial Notes..... 248
General Industrial Notes..... 289
General Industrial Notes..... 332
General Industrial Notes..... 383
General Industrial Notes..... 434
General Industrial Notes..... 475
General Industrial Notes..... 513
Glasses, Safety, Displays..... 423
Goggle, New, for Grinders..... 41
Goggles, How to Test Lenses of..... 449
Good Light—A Safety Factor in Casting Plants 216
Gray Iron Castings, Annealing 188
Gray Iron Castings, Light, Annealing Effect on 219
Gray Iron Castings, Shot in 103
Gray Iron, Hard 240
Gray Iron, Overcoming Slag and Dirt in.. 186
Gray Iron, Shot in 52

Gray Iron, Shot in 160
Gray Iron, To Chill 475
Great Western Mfg. Co., A New Gyratory Riddle 379
Green or Dry Sand Core..... 397
Grinder, A Portable..... 329
Grinder, New Stow..... 513
Grinder, Wet and Dry..... 39
Grinding and Polishing Stove Plate Trimmings 236
Grinding Wheel Breaks, Why Your..... 104
Grinding Wheels for Foundry Use, Selecting 115

H

Hall-Holmes Mfg. Co., Motor-Driven, Rotary Sand Riddle..... 510
Hammers, Improved Chipping, and Foundry Rammers 289
Hammond Malleable Iron Co., The Layout of a Model Malleable Iron Plant.... 204
Handles, Cast Lever, Proportions of..... 140
Hanna Engineering Works, A New Hanna Shaker 246
Hanna Engineering Works, Improved Sand Shaker 208
Hanna Engineering Works, Large Tripod Pneumatic Sifting Machine..... 474
Hanna Engineering Works, Lubrication of Hanna Sifters 328
Hardness-Testing, Brinell, of Non-Ferrous Alloys 111
Heat-Treating Case-Hardened Carbon-Steel Objects, Recommended Practice for.... .....Data Sheet No. 182, March
Helmet, a Fibre, for Welders..... 380
Herman Pneumatic Machine Co., Use of Herman Machines 39
Heroult Electric Furnaces for Foundry Use 225
High Tensile Aluminum Bronze..... 196
High Tensile Manganese Bronze..... 159
Hints, Practical, for the Brass Foundryman 112
Hoist, Electric 169
Holding an Electrical Manufacturer's Business 96
Home-Made Tumbler for Light Castings.. 97
How Foundry Equipment is Properly Controlled 201
How Institute Students Cast a Gasoline Engine 99
How Producer Gas is Used for Drying Molds and Cores and for Heating Ladles in English Foundries..... 229
How State Laws Compel Removal of Dust 43
How the Product of the Foundry is Inspected 222
How to Eliminate Defects in Steel Castings 146
How to Get Clean Metal..... 194
How to Increase the Output of Your Foundry 93
How to Mold Large Centrifugal Pump Casings 477
How to Operate the Sand-Blast Efficiently 182
How to Use Plaster of Paris..... 51
Hydraulic Bronzes, Nickel and..... 159

I

Iler, F. M., Brass Melting and Refining Furnace 40
Imperial Brass Mfg. Co., Combination Cutting and Welding Torch..... 247
Imperial Brass Mfg. Co., Oxy-Acetylene Equipment 168
Implement Casting Demand, Decline in... 321
Ingersoll-Rand Co., A Portable Grinder.... 329
Ingersoll-Rand Co., Close Quarter Drill... 329
Ingersoll-Rand Co., Small Steam - Driven Air Compressors 289
Ingersoll-Rand Co., Steam - Driven Air Compressor 509
Ingots With Fine Grain..... 233
Injury, Proper Clothing Prevents..... 375
Inspected, How the Product of the Foundry is 222
Insufficient Air for the Cupola..... 102
Interesting Tests of Vanadium Iron Castings 179
Intoxication, a Cause of Foundry Accidents 267
Inventory, Perpetual, of Rough Castings. 481
Iron and Steel, Protective Coatings for —II. 35
Iron, Car Wheel, Comments on Fuel Ratio for 97
Iron, Car Wheel, Fuel Ratio on..... 51
Iron, Casting Brass Onto..... 113
Iron, Clean, Close-Grained 247
Iron, Dirty 230
Iron, Dull, Troubled With..... 382
Iron From Sand, Device for Removing... 382
Iron, Hard 359
Iron, Hard and Soft, Melting Points of... 257
Iron, Molten, Boiling in Ladles..... 439
Iron, Removing, From Aluminum..... 31
Iron, Stove Plate 110
Iron, Wants Soft 318

J

Jig, Gear Tooth..... 243
Jolt-Rammers, Molding Air Compressors on 18
Jolt-Ramming Device on Plain Split Pattern Machine 510
Jones Paint Co., Describes Products..... 482

K

Kawin, Charles C., Co., New San Francisco Laboratory 59
Keller Peumatic Tool Co., Improved Chipping Hammers and Foundry Rammers.. 289
Kimball, H. E., New Multiple Molding Machine 511
King, Julius, Optical Co., A Fibre Helmet for Welders 380
King Sewing Machine Co., How Sewing Machine Parts are Molded and Cast.... 345

L

Laboratory, New San Francisco..... 59
Ladle Chain, When the, Broke..... 261
Lake Superior and Electrolytic Copper... 69
Lamp, Incandescent, Edison and the..... 404
Laws, How State, Compel Removal of Dust 43
Layout of a Model Malleable Iron Plant.. 204
Lebanon Steel Foundry, Heroult Electric Furnaces for Foundry Use..... 225
Legging, Combination Gaiter and..... 140
Lengths of Chords for Segments of Different Circles ....Data Sheets Nos. 191 and 192, Aug.
Lenoir Car Works, Making Car Wheels at —I. 351
Lenoir Car Works, Making Car Wheels at, —II. 428
Lenoir Car Works, Making Car Wheels at, —III. 436
Lever Handles, Cast, Proportions of..... 140
Light and Practical First Aid Jar for Shops 72
Lincoln Electric Co., Arc Welder..... 330
Liners, Brass, Top-Pouring..... 231
Link-Belt Co., Electric Hoist..... 169
Locomotives, Metallic Packing for..... 501
Lord & Burnham Co., How Boiler and Greenhouse Parts Are Molded..... 249
Low Shrinkage Mixture..... 70
Lycoming Foundry & Machine Co., How to Make Automobile Engine Castings... 291

Mc

McIntosh & Seymour Corp., How to Mold Large Centrifugal Pump Casings..... 477
McLain's System, Teaching Foundry Practice by Mail..... 65

M

Machine-Made Cores 160
Maclees, Robert, Specialty House, Secures New Line 230
Magnesium, Effect of, in Aluminum Bronze 30
Making a Cylinder Head Pattern..... 490
Making a Herringbone Grate Pattern..... 184
Making Brass Castings With Emergency Equipment 232
Making Small Gear Wheels by a Novel Method 161
Malleable Cast Iron, Novel Tests of..... 13
Malleable Castings, Phosphorus Limit in.. 447
Malleable Castings, Scale-Burnt 382
Malleable, Cupola, Scrap for 270
Malleable Iron Castings, Specifications for. 259
Malleable Iron Difficulties 165
Malleable Iron Difficulties 120
Malleable Iron Fittings Co., All-Steel Vibrator 247
Malleable Iron, Manufacture and Uses of. 141
Malleable Iron Plant, Layout of a Model. 204
Management, Shop, and What It Means.. 299
Manganese Bronze, Composition of..... 315
Manganese Bronze, High Tensile..... 159
Manganese Bronze, Melting 113
Manganese Ore, Use of..... 92
Manganese Steel, Manufacture and Utility of 138
Manufacture and Uses of Malleable Iron. 141
Manufacture and Utility of Manganese Steel 138
Matches, Plaster, for Use on Machine or Floor 238
Match-Plates, Aluminum Alloy for..... 279
Match-Plates, Aluminum, Difficulties With,. 113
Match-Plates, Aluminum Mixtures for..... 195
Match-Plates, Melting Aluminum for..... 31
Melting, Copper, Difficulties 158
Melting, Loss in..... 272
Melting Manganese Bronze..... 113
Melting Points of Hard and Soft Iron... 257
Melting, Slow 20
Melting, Slow, and Cupola Lining Burning-Out 183
Melting, Slow Cupola 167
Melting, Slow, in the Cupola..... 106
Melting, Slow, in the Cupola, An Answer to 180
Melting Steel Turnings 20
Metal, Anti-Acid 114
Metal, Babbitt, Recovering 195
Metal, Babbitt, Yellow Color on..... 71
Metal, Britannia 192
Metal, Clean, How to Get..... 194
Metal, Non-Shrinking Pattern 234
Metal, Victor Vanadium 71
Metal, Yellow 461
Metallic Packing for Locomotives..... 501
Metallic Pastes for Temperature Measurements 39
Metallurgical Temperature Chart..... ....Data Sheets Nos. 183 and 184, April
Metals, Old, Classification of..... 312
Metals, Scrap, Use of..... 159
Metals, Secondary, Recovery of, in 1914.. 312
Metamorphosis of the Foundry..... 415
Methods, Tentative, Sampling Pig and Cast Iron 259
Miller, Jesse E., Master Foundryman at 77 Years 354
Mixture, Core, for Steel Castings..... 20
Mixture for Chilled Crusher Rolls..... 187
Mixture for Die-Cast Bearings..... 158
Mixture for Piston Rings..... 240
Mixture for Plaques 196
Mixture, Genuine Babbitt 373
Mixture, Low Shrinkage 70
Mixture, Manganese Bronze 315
Mixture, Plastic Bronze 372
Mixture, Strong Aluminum Alloy..... 71
Mixture, Tobin Bronze 71
Mixture, Victor Vanadium Metal..... 71
Mixtures, Aluminum, for Match-Plates.... 195
Mixtures, Brass Facing..... 30
Mixtures, Die-Casting 372
Mixtures for Bushings 157
Mixtures for Cores 196
Mixtures for Water Fittings..... 158
Mixtures for White Metal Patterns..... 234
Mixtures, Propeller and Connecting Rod.. 501
Mixtures, Soldering 114
Molders, Educating Steel Foundry..... 52
Molding Air Compressors on Jolt-Rammers 18
Molding and Casting Large Tunnel Segments 357
Molding Machine, Cooper Squeezer 330
Molding Machine, Multiple 511
Molding Machine, New Osborn..... 79
Molding Machine, Two-Piece Jolt-Ramming 475
Molding Machines, Jar-Ramming, Foundations for 420
Molding Pistons 72
Molding the New Cadillac Eight-Cylinder Motor 171
Molybdenum and Copper..... 344
Motor, Molding the New Cadillac Eight-Cylinder 171
Motors and Controllers, Electric, Selection of 60
Multiple Molding Machine..... 511
Mumford, E. H., Co. 167
Mumford, E. H., Co. 247
Mumford, E. H., Co., Jolt-Ramming Device on Plain Split Pattern Machine.... 510
Mumford Molding Machine Co., Pneumatic Vibrator 433
Mumford Molding Machine Co., Two-Piece Jolt Rammers 475
Mushroom Gates and Risers..... 69

N

N. A. S. O., Light and Practical First Aid Jar for Shops..... 72
National Association of Waste Material Dealers, Classification of Old Metals.... 312
National Brake & Electric Co., Molding Air Compressors on Jolt-Rammers..... 18
National Clamp Co., Adjustable Foundry Clamp 169
National Founders' Association, Fifty Safety Rules for the Operation of Cranes 16
National Founders' Association, Good Light —A Safety Factor in Casting Plants... 216
National Founders' Association, How to Increase Safety of Cupola Operations... 445
National Founders' Association, Proper Clothing Prevents Injury..... 375
National Founders' Association, Proper Protection for Barrows and Trucks..... 265
National Founders' Association, Safety in Care and Use of Industrial Railways... 105
National Founders' Association, Safety in Tumbling Mill Operations..... 144
National Hose Coupling Co., Compressed Air Hose Coupling..... 329
Nehls, Carl, Alloy Co., Metallic Pastes for Temperature Measurements 39
Newark Foundrymen's Association, Annual Meeting of 228
New England Novelty Co., Soft Wood Core Sticks 433
New Jersey Meter Co., Automatic Air Meter for Foundries..... 168
New York State Rules Governing Casting Plants 295
Nickel and Hydraulic Bronzes..... 159
Nitre Cake for Pickling..... 289
Non-Ferrous Alloys, Brinell Hardness-Testing of 111
Non-Shrinking Pattern Metal..... 234
Northern Engineering Works, Crane Trolley 81

O

One-Piece Chaplet Works, One-Piece Chaplet 243
Open Hearths, Checker Design for..... 413
Operating a Foundry on a Scientific Basis —III 21

Operating a Foundry on a Scientific Basis —IV 53
Operating a Foundry on a Scientific Basis —V 107
Opportunities for the Foundry Engineer.. 63
Ore, Manganese, Use of..... 92
Orenstein-Arthur Koppel Co., Pig Iron Charging Car 40
Ornaments, Brass 373
Osborn Mfg. Co., New Osborn Molding Machine 79
Otis Elevator Co., Electric Steel Castings Made on Large Scale..... 1
Output, How to Increase the, of Your Foundry 93
Oxweld Acetylene Co., An Unusual Welding Job 218
Oxweld Acetylene Co., How Time and Money Were Saved by Welding..... 235
Oxy-Acetylene Equipment, Imperial..... 168
OBITUARIES:
Allen, M. W..... 207
Bair, Adam W..... 127
Brewster, Major Henry M..... 75
Hendrickson, J. G..... 482
Marschall, Peter 200
Mumford, Edgar H..... 207
Taylor, Zachary 167
Walker, Benjamin J..... 245
West, Thomas Dyson..... 287
Whitehead, Lydell 125

P

Packing, Metallic, for Locomotives..... 501
Pangborn Corp., Rotary Table Sand-Blast 511
Pastes, Metallic, for Temperature Measurements 39
Pattern, Base Plate, An Inexpensive..... 466
Pattern, Cylinder Head, Making a..... 490
Pattern, Herringbone Grate, Making a.... 184
Pattern Metal, Non-Shrinking 234
Pattern Plates, A Place for..... 303
Pattern Runner, Brass 159
Pattern?, Where's That, and How to Locate It 263
Patternmaker's Arbor 489
Patternmaker's Table for Rounding Corners .....Data Sheet No. 185, May
Patternmakers, Emery Tool Grinder for.. 300
Patternmakers, Useful Tables for..... .....Data Sheet No. 186, May
Patterns, White Metal, Mixtures for..... 234
Pawling & Harnischfeger Co., Thirty Years of Progress 81
Paxson, J. W., Co., Adjustable Hand Ladle Skimmer 80
Paxson Secures Zippler Tuyeres 186
Pennsylvania's Control of Foundry Operations 479
Personal 41, 80, 125, 165, 200, 247, 288, 331, 379, 433, 475
Phosphor-Bronze Castings, Cores for..... 461
Phosphor-Bronze, What is 69
Phosphor-Copper, Use of 113
Phosphorus Limit in Malleable Castings.. 447
Physical Properties Vs. Analysis..... 120
Pickling, Nitre Cake for..... 289
Pig Iron Charging Car 40
Pig Iron, Controlling the Sulphur in Melting 189
Pig Iron, Production of 381
Pin Holes and Internal Shrinkage..... 19
Pioneering, Industrial, Problems Involved in 82
Pipe, Casting Iron Around..... 241
Piping for Chill-Cast Bars..... 373
Piston Castings, Spongy 482
Piston Rings, Mixture for..... 240
Pistons, Molding 72
Plaques, Mixtures for..... 196
Plaster Matches for Use on Machine or Floor 238
Plaster of Paris, How to Use..... 51
Plastic Bronze Analysis..... 372
Plating Room, Efficiency in the..... 360
Plating Solutions, Copper Cyanide..... 197
Polishing, Grinding and, Stove Plate Trimmings 236
Polishing Iron Castings..... 70
Polygons, Outside Diameters for..... ....Data Sheets Nos. 197 and 198, Nov.
Porous Brass Bushings..... 501
Porous Brass Castings 157
Portage Silica Co,. A Sand Blast and Steel Molding Sand Plant..... 36
Practical Hints for the Brass Foundryman 112
Prest-O-Lite Co., Welding Scrap Nickel Anodes 283
Problem, The Important, of Obtaining New Work 271
Problems Involved in Industrial Pioneering 82
Producer Gas is Used for Drying Molds and Cores and for Heating Ladles in English Foundries, How..... 229
Profits, Where are the, in the Foundry Business? 74
Promise-Keeper for the Foundry..... 227
Propeller and Connecting Rod Mixtures.. 501
Proper Eye Protectors..... 59
Protection, Proper, for Barrows and Trucks 265
Protective Coatings for Iron and Steel—II 35
Puget Sound Navy Yard, A Few of the First Principles of Shop Planning..... 366
Pump Casings, Large Centrifugal, How to Mold 477
Putnam Machine Co., A New Foundry for Making Machinery Castings..... 281
Putting One Over on the Foundry..... 145
Pyrometer, Paste 39

Q

Qualifications Contradictory? 365

R

Radiators Lack Strength..... 324
Railroad Car-Bearing Alloy, Need of Standard 457
Railways, Industrial, Safety in Care and Use of 105
Rammers, Foundry, Improved Chipping Hammers and 289
Reading-Bayonne Steel Casting Co., Sells Steel Casting Companies..... 218
Recent Improvements in Foundry Operations—I 483
Reclaiming Brass Foundry Waste..... 191
Reclaiming Metals from Cinder..... 327
Recommended Practice for Heat-Treating Case-Hardened Carbon-Steel Objects.... .....Data Sheet No. 182, March
Recommended Practice for the Annealing of Carbon-Steel Castings..... .....Data Sheet No. 181, March
Recovered by Melting, How Aluminum Chips Are 462
Recovering Babbitt Metal 195
Recovery of Aluminum Turnings and Borings 195
Recovery of Secondary Metals in 1914.... 313
Regulating the Height of Fuel Bed in Cupolas 28
Relief Valves, Use of, on Cupola Blast Pipes 26
Remelting, Effect of Repeated, on Copper. 71
Remelting Problems 114
Removing Iron From Aluminum..... 31
Research Work at the University of Pittsburgh 237
Revision of the A. F. A. Standard Cost System 7
Revolving Barrel Sand-Blast Machine..... 246
Riddle, A New Gyratory..... 379
Risers, Mushroom Gates and..... 69
Rolls, Chilled Crusher, Mixture for..... 187
Rotary Table Sand-Blast..... 511

S

Safety Factor in Casting Plants, Good Light 216
Safety, How to Increase, of Cupola Operations 445
Safety in Care and Use of Industrial Railways 105
Safety in Tumbling Mill Operations..... 144
Safety Rules, Fifty, for the Operation of Cranes 16
Sampling Pig and Cast Iron, Tentative Methods 259
Sand-Blast and Steel Molding Sand Plant. 36
Sand-Blast Equipment, Brown Company Makes 174
Sand-Blast, How to Operate the, Efficiently 182
Sand-Blast Machine, Revolving Barrel..... 246
Sand-Blast Plant, Improved 374
Sand-Blast, Rotary Table 511
Sand Cutting and Tempering Machine, Crane 77
Sand, Device for Removing Iron From... 382
Sand Mixing Machine Co., Crane Sand Cutting and Tempering Machine 77
Sand, Molding 380
Sand, Molding, Production..... 374
Sand Riddle, An Electrically-Driven Portable 325
Sand Riddle, Motor-Driven, Rotary..... 510
Sand Shaker, Improved..... 208
Sand Sifters, Lubrication of Hanna..... 328
Sand Suitable for Brass Work..... 373
Saw, Band, A New Metal..... 328
Saw Guard, Adjustable..... 126
Saws, Narrow Band, Brazing Outfit for.. 317
Scientific Basis, Operating a Foundry on a—III. 21
Scientific Basis, Operating a Foundry on a—IV. 53
Scientific Basis, Operating a Foundry on a—V. 107
Scientific Basis, Operating the Cupola on a..... 322
Scientific Management, The Application of—I. 440
Scientific Management, The Application of—II. 503
Scrap, Brass Tube, Use of..... 195
Scrap for Cupola Malleable..... 270
Scrap Heap, Our Big..... 323
Scrap Metals, Use of..... 159
Scrap, Use of Brass..... 234
Scratch-Brushing Yellow Brass..... 195
Selecting Grinding Wheels for Foundry Use. 115
Selection of Electric Motors and Controllers 60
Sewing Machine Parts are Molded and Cast, How..... 345
Shaker, A New Hanna..... 246
Shop Management and What It Means... 299
Shop Planning, A Few of the First Principles of 366
Shot in Gray Iron..... 52
Shot in Gray Iron..... 160
Shot in Gray Iron Castings..... 103
Shrapnel Casing, Cast vs. Forged..... 298
Shrapnel Shell Sockets..... 279
Shrink Holes in Castings..... 272
Shrinkage, Alloy 278
Shrinkage, Comparison of Analysis and... 58
Shrinkage Cracks in Car Wheels..... 280
Shrinkage Cracks in Steel Castings..... 411
Shrinkage of Bushings..... 31
Shrinkage, Internal, Pin Holes and..... 19
Sifting Machine, Large Tripod Pneumatic. 474
Silberberg, M. J., Time Study Watch... 169
Silicon, High, Castings..... 474
Silicon, Use of, in Copper..... 31
Simonds Mfg. Co., Electric Furnace Installed 469
Sivyer Steel Casting Co., Educating Steel Foundry Molders 52
Skim Gate That Skims..... 243
Skimmer, Adjustable Hand Ladle..... 80
Slag and Dirt in Gray Iron, Overcoming.. 186
Slag, Foaming 28
Slag, Revolving Crane For Handling..... 123
Sleeves, Bronze, Casting..... 194
Slow Cupola Melting..... 167
Slow Melting..... 20
Slow Melting in the Cupola..... 106
Smith, George H., Steel Casting Co., Steel Casting Concern Expands..... 300
Snyder Electric Furnace Co., Electric Brass Melting Furnace..... 305
Snyder Electric Furnace Co., Electric Furnace for England 178
Snyder Electric Furnace Co., Electric Furnace in Operation..... 454
Snyder Electric Furnace Co., Electric Steel for Munitions..... 433
Snyder Electric Furnace Co., Installs Another Electric Furnace..... 215
Snyder Furnace Installation..... 203
Soldering Aluminum Bronze..... 196
Soldering Mixtures 114
Solutions, Plating, Copper Cyanide..... 197
Specific Gravity, Etc., of Alloys, Formulas for ....Data Sheet No. 188, June
Specifications for Government Bronze.... 260
Specifications for Malleable Iron..... 259
Specifications, Tentative, for Foundry Coke 269
Spelter Impurity in Slush Castings..... 494
Spongy Piston Castings..... 482
Spots, White, on Brass Castings..... 460
St. Louis Foundrymen's Club..... 247
Standard Equipment Co., New Combination Crusher and Mill..... 327
Standard Specifications for the Foundryman 258
Stands, Miscellaneous, for Use in the Foundry 301
Steam-Driven Air Compressor..... 509
Steel and Cast Iron Compared, Corrosion of 467
Steel, Cast, Dynamic Qualities of..... 417
Steel, Cast, Rapidly Determining Carbon in 151
Steel Casting Business, Changes in..... 126
Steel Castings, How to Eliminate Defects in 146
Steel, Difficulties of Casting Brass Onto.. 461
Steel Foundryman's Great Asset, Common Sense 175
Steel, Manganese, Manufacture and Utility of 138
Steel, Protective Coatings for Iron and —II. 35
Sterling Wheelbarrow Co., To Build Addition 262
Stoughton, Bradley, Operating the Cupola With Fuel Oil 224
Stout Institute, How Institute Students Cast a Gasoline Engine..... 99
Stove Plate Iron..... 110
Stove Plate, Strength of..... 103
Stove Plate Trimmings, Grinding and Polishing 236
Stow Mfg. Co., New Grinder..... 513
Straight or Boshed Cupola Lining..... 183
Strength of Stove Plate..... 103
Strong Aluminum Alloy..... 71
Success and Failure in the Foundry..... 297
Suck, Adolph, Concrete Foundry Building 178
Suggestions for Reading Working Drawings 464
Sulphur, Blow-Holes and 95
Sulphur, Controlling the, in Melting Pig Iron 189
Sulphur, The Control of..... 310
Switch, Improved Oil 328

T

Table Converting Millimeters to Inches Data Sheets Nos. 199 and 200, December
Table for Spacing Off Circles....Data Sheets Nos. 189 and 190, July
Table, Patternmaker's for Rounding Corners .....Data Sheet No. 185, May
Tables, Useful, for Patternmakers.....Data Sheet No. 186, May
Tablets, Bronze, Making..... 158
Teaching Foundry Practice by Mail..... 65
Temperature Chart, Metallurgical....Data Sheets Nos. 183 and 184, April
Temperature of Cupola..... 123
Temperature Measurements, Metallic Pastes for 39
Tests in Atomizing Fuel Oil With Steam and Air..... 424
Tests, Interesting, of Vanadium Iron Castings 179
Tests, Novel, of Malleable Cast Iron..... 13
Tests of Natural Gas-Fired Brass Furnaces 153
Thomas Iron Co., Interesting Tests of Vanadium Iron Castings..... 179
Tilghman-Brooksbank Sand Blast Co., Improved Sand-Blast Plant..... 374
Time Study Instructions..... 24
Time Study Watch..... 169
Titanium Alloy Mfg. Co., Bronze Mixtures Made by 379
Titanium Alloy Mfg. Co., How Titanium-Aluminum Bronze is Produced..... 273
Titanium Alloy Mfg. Co., Titanium Aluminum Bronze 160
Tobin Bronze 71
Top-Pouring Brass Liners..... 231
Trolley, Northern Crane..... 81
Trade Notes 81, 513
Trade Publications 42, 84, 128, 170, 210, 248, 290, 382, 476, 514
Training Embryo Foundry Leaders in School 306
Training in Foundry Work That is Worth While 405
Trolley Wheel Difficulties..... 315
Tumbler, A Home-Made, for Light Castings 97
Tumbling Mill Operations, Safety in..... 144
Tunnel Segments, Molding and Casting Large 357
Turnings and Borings, Aluminum, Recovery of 195
Turnings, Brass, Use of 195
Turnings, Red Brass, Improper Use of... 372
Turnings, Removal of Aluminum from... 278
Turnings, Steel, Melting 20
Tuyeres, Correct Size of 444
Tuyeres, Invents New System of..... 381
Two-Story-Foundry for Continuous Operations 185

U

U. S. S. Vestal, Floating Foundry of the . 21
University of Illinois, Training in Foundry Work That is Worth While..... 405
University of Pittsburgh, Research Work at the 237

V

Valve, Air Hoist..... 75
Vanadium Iron Castings, Interesting Tests of 179
Vibrator, All-Steel 247
Vibrator, Pneumatic 433
Victor Vanadium Metal..... 71
Volume Blower and Exhaster..... 126
Vulcan Engineering Sales Co., Wall Type Radial Drill 127

W

Wadsworth Core Machine & Equipment Co., Steel Base Plates and Core Trays.. 208
Walker Wedge Testing Machine..... 305
Waste, Brass Foundry, Reclaiming..... 191
Watch, Time Study..... 169
Wedge Testing Machine, Walker..... 305
Weight of Balls or Spheres.....Data Sheets Nos. 193 and 194, September
Weight of Rods or Cylinders per Running Inch .....Data Sheets Nos. 177, 178, 179 and 180, January, February
Weight Per Cubic Foot and Per Cubic Inch .....Data Sheet No. 187, June
Welder, Arc, Lincoln..... 330
Welding, Electrical Arc, Modern Practice in 316
Welding, How Time and Money Were Saved by..... 235
Welding Job, An Unusual 218
Welding Operations, Novel 190
Welding Scrap Nickel Anodes..... 283
Welding Sticks, Aluminum and Cast Iron. 234
Welding Torch, Combination Cutting and. 247
Wentworth Institute, New Course at..... 433
Wentworth Institute, Training Embryo Foundry Leaders in School..... 306
West, Thomas D., An Appreciation of, by Dr. Richard Moldenke..... 288
West, Thomas D., Tribute to Memory of. 325
Wheeler & Holcomb, Asbestos Clothing... 433
Wheeling Mold & Foundry Co., Molding and Casting Large Tunnel Segments.... 357
White Metal Patterns, Mixtures for..... 234
Whiting Foundry Equipment Co., Air Hoist Valve..... 75
Whiting Foundry Equipment Co., Cloth Screen Dust Arrester 331
Whiting Foundry Equipment Co., Record Crane Delivery 127
Willson, T. A., & Co., Inc., A New Goggle for Grinders 41
Willson, T. A., & Co., Inc., Displays Safety Glasses 423

Y

Yale & Towne Mfg. Co., Casting Brass Under Modern Conditions..... 129
Yale & Towne Mfg. Co., Changes..... 167
Yellow Brass for Light Work..... 158
Yellow Color on Babbitt Metal..... 71
Yellow Metal 461

Z

Zinc, Cast 232
Zippler, Francis J., Invents New System of Tuyeres 381
Zippler Tuyeres, Paxson Secures..... 186

Authors' Index to Volume XLIII

January---December, 1915

A

Addicks, Lawrence, Commercial Classification of Refined Copper..... 32
Anderson, James H., A Skim Gate That Skims 243
Anderson, James H., An Answer to Slow Melting in the Cupola..... 180
Anderson, James H., Large Heats Made in Small Cupolas 241
Anthes, L. L., Problems Involved in Industrial Pioneering 82

B

Barrett, D. O., Molding Pistons..... 72
Barrows, F. W., Brazing Outfit for Narrow Band Saws..... 317
Barrows, F. W., Would the Castings Have Come Straight?..... 19
Best, W. N., Fuel Oil for Foundry Use 224
Betton, James M., How to Operate the Sand-Blast Efficiently..... 182
Blair, P. W., Team Work in a Brass Plant 279
Bossinger, William R., Shrinkage Cracks in Steel Castings..... 411
Buchanan, J. F., A Handy Flask Clamp.. 242
Bull, R. A., Tests in Atomizing Fuel Oil With Steam and Air..... 424
Bull, R. A., The Metamorphosis of the Foundry 415
Bull, R. A., The Proper Use of Cores in Modern Molding 470
Burr, Robert B., and Fred L. Wolf, Tests of Natural Gas-Fired Brass Furnaces... 153

C

Carman, E. S., Foundations for Jar-Ramming Molding Machines 420
Carr, W. M., Controlling the Sulphur in Melting Pig Iron..... 189
Carr, W. M., Shot in Gray Iron..... 52
Carr, W. M., Shot in Gray Iron..... 160
Carr, W. M., The Control of Sulphur.... 310
Carson, H. Y., and R. C. McWane, The Corrosion of Steel and Cast Iron Compared 467
Clarke, Russell R., Need of Standard Railroad Car-Bearing Alloy..... 457
Clements, F. O., Effects of Repeated Remelting on Copper 71
Cook, S. L., A Patternmaker's Arbor..... 489
Cook, S. L., Chords of Angles From One to Ninety Degrees....Data Sheets Nos. 195 and 196, October
Cook, S. L., Lengths of Chords for Segments of Different Circles....Data Sheets Nos. 191 and 192, August
Cook, S. L., Outside Diameters for Polygons .....Data Sheets Nos. 197 and 198, November
Cook, S. L., Patternmaker's Table for Rounding Corners .....Data Sheet No. 185, May
Cook, S. L., Useful Tables for Patternmakers .....Data Sheet No. 186, May
Corse, W. M., Properties of Aluminum Bronze Alloys..... 459

D

Dean, A. G., Where are the Profits in the Foundry Business?..... 74
Dietz, Carl Frederick, Soliciting Grinding Wheels for Foundry Use..... 115
Dowler, A. S., Comments on Fuel Ratio for Car Wheel Iron..... 97

E

Emerson, Harrington, Revision of the A. F. A. Standard Cost System..... 7
Ervin, J. F., Agricultural Castings Made at Minimum Cost..... 85
Estep, H. Cole, Casting Brass Under Modern Conditions..... 129
Estep, H. Cole, Electric Steel Castings Made on Large Scale..... 1
Estep, H. Cole, How Sewing Machine Parts are Molded and Cast..... 345
Estep, H. Cole, How State Laws Compel Removal of Dust..... 43
Estep, H. Cole, Molding the New Cadillac Eight-Cylinder Motor 171
Evans, G. S., Annealing Effect on Light Gray Iron Castings..... 219
Evans, G. S., Making Car Wheels at Lenoir Car Works—I..... 351
Evans, G. S., Making Car Wheels at Lenoir Car Works—II..... 428
Evans, G. S., Making Car Wheels at Lenoir Car Works—III..... 436

F

Forrester, Leo, When the Ladle Chain Broke 261
Fraser, W. D., Machine-Made Cores..... 160

G

Gillett, H. W., How Aluminum Chips Are Recovered by Melting..... 462
Godfrey, Edward, How the Product of the Foundry is Inspected..... 222
Gordon, D., How to Use Plaster of Paris 51

H

Hall, John Howe, How to Eliminate Defects in Steel Castings..... 146
Hall, John M., Manufacture and Utility of Manganese Steel..... 139
Hathaway, H. K., The Application of Scientific Management—I..... 440
Hathaway, H. K., The Application of Scientific Management—II..... 503
Hicks, George C., and W. J. Keep, Insufficient Air for the Cupola..... 102
Hill, Allan, Miscellaneous Stands for Use in the Foundry..... 301
Hill, Allan, Plaster Matches for Use on Machine or Floor..... 238
Hillix, F. F., How Institute Students Cast a Gasoline Engine..... 99
Hobbs, Franklin W., Grinding and Polishing Stove Plate Trimmings..... 236
Hogden, R. C., Some Points on Cupola Practice 17
Hogue, J. H., and R. E. Kennedy, Training in Foundry Work That is Worth While 405
Hooper, G. K., How to Increase the Output of Your Foundry..... 93
Hooper, G. K., Two-Story Foundry for Continuous Operations..... 185
Horstmann, Wm. H., Co., Combination Legging and Gaiter..... 140

J

Janssen, W. A., Checker Design for Open Hearths 413
Johnson, E. A., Training Embryo Foundry Leaders in School..... 306
Jonson, Ernst, Fatigue of Copper Alloys. 311
Josten, Louis J., Molding and Casting Large Tunnel Segments..... 357

K

Keep, W. J., Annealing Car Wheels..... 187
Keep, W. J., Binder for Cylinder Cores... 240
Keep, W. J., Blow-Holes in a Casting.... 262
Keep, W. J., Bridging of a Cupola..... 310
Keep, W. J., Casting Steel Chills in Bronze Castings 513
Keep, W. J., Charcoal as Fuel for Cupola Melting 303
Keep, W. J., Chilled Car Wheels..... 469
Keep, W. J., Clean, Close-Grained Iron... 247
Keep, W. J., Comparison of Analysis and Shrinkage 58
Keep, W. J., Correct Size of Tuyeres... 444
Keep, W. J., Cupola for a Small Shop.... 239
Keep, W. J., Dirty Iron..... 230
Keep, W. J., Flux to Prevent Gas Holes. 266
Keep, W. J., Foaming Slag..... 28
Keep, W. J., Fuel Ratio on Car Wheel Iron 51
Keep, W. J., Green or Dry Sand Core... 397
Keep, W. J., Hard Gray Iron..... 240
Keep, W. J., Hard Iron..... 359
Keep, W. J., Loss in Melting..... 272
Keep, W. J., Malleable Iron Difficulties... 120
Keep, W. J., Melting Points of Hard and Soft Iron 257
Keep, W. J., Mixture for Chilled Crusher Rolls 187
Keep, W. J., Mixture for Piston Rings.... 240
Keep, W. J., Molding Sand..... 380
Keep, W. J., Molten Iron Boiling in Ladles 439
Keep, W. J., Physical Properties Vs. Analysis 120
Keep, W. J., Pin Holes and Internal Shrinkage 19
Keep, W. J., Radiators Lack Strength.... 324
Keep, W. J., Shrink Holes in Castings.... 272
Keep, W. J., Shrinkage Cracks in Car Wheels 280
Keep, W. J., Slow Melting..... 20
Keep, W. J., Slow Melting and Cupola Lining Burning-Out 183
Keep, W. J., Spongy Piston Castings..... 482
Keep, W. J., Stove Plate Iron..... 110
Keep, W. J., Straight or Boshed Cupola Lining 103
Keep, W. J., Strength of Stove Plate..... 103
Keep, W. J., Strong Cast Iron..... 294
Keep, W. J., Temperature of Cupola..... 123
Keep, W. J., To Chill Gray Iron..... 475
Keep, W. J., Troubled With Dull Iron.... 382
Keep, W. J., Wants Soft Iron..... 318
Keep, W. J., White Cores in Castings.... 475
Keep, W. J., and George C. Hicks, Insufficient Air for the Cupola..... 102
Kennedy, R. E., and J. H. Hogue, Training in Foundry Work That is Worth While 405
Kiefer, A., Success and Failure in the Foundry 297
Kiln, Wm. J., Metallurgical Temperature Chart—Data Sheets Nos. 183 and 184, April
King, F. W., How to Test Lenses of Goggles 449
Kranz, William G., The Electric Furnace in the Foundry 164
Kreutzberg, E. C., How Boiler and Greenhouse Parts Are Molded..... 249

L

Later, E. P., Efficiency in Plating Room.. 360
Later, E. P., Protective Coatings for Iron and Steel—II..... 35
Leafstrom, John, Making Brass Castings With Emergency Equipment 232
Leafstrom, John, Proportions of Cast Lever Handles 140
Lemme, A. W., Reclaiming Brass Foundry Waste 191
Libby, S. H., Selection of Electric Motors and Controllers 60
Lincoln, J. F., Arc-Welding Applied to Foundry Work 139
Liscomb, N., A Home-Made Tumbler for Light Castings 97
Lyall, C. E., Other Solutions of Foundry Difficulties 304

Mc

McAlpine, Arthur, Table for Spacing Off Circles .....
...Data Sheets Nos. 189 and 190, July
McLain, R. H., How Foundry Equipment is Properly Controlled..... 201
McMurtrie, H. J., The Important Problem of Obtaining New Work..... 271
McWane, R. C., and H. Y. Carson, The Corrosion of Steel and Cast Iron Compared 467

M

Mackibbin, L., Jesse E. Miller—Master Foundryman at 77 years..... 354
Mason, J. K., An Analysis of the Foundry Cost 8
Metcalf, C., Slow Melting in the Cupola.. 106
Micks, P. R., Overcoming Slag and Dirt in Gray Iron..... 186
Micks, P., Practical Hints for the Brass Foundryman 112
Miles, R. A., Making Small Gear Wheels by a Novel Method..... 161
Moldenke, Richard, Cupola Bed and Blast Pressures 98
Moldenke, Richard, High Silicon Castings. 474
Moldenke, Richard, Regulating the Height of Fuel Bed in Cupolas..... 28
Moldenke, Richard, Scale-Burnt Malleable Castings 382
Morrison, Walter L., Determining Carbon in Cast Steel Rapidly..... 151
Morse, Henry C., and Gilbert Rigg, Spelter Impurity in Slush Castings..... 494
Muntz, S., and S. Roubieu, Common Sense Steel Foundryman's Great Asset..... 175
Murphy, Con., Emery Tool Grinder for Patternmakers 300
Murphy, H. D., Putting One Over on the Foundry 145

P

Pack, Charles, Die Casting Aluminum Commercially 456
Parkhurst, Frederic A., Operating a Foundry on a Scientific Basis—III..... 21
Parkhurst, Frederic A., Operating a Foundry on a Scientific Basis—IV..... 53
Parkhurst, Frederic A., Operating a Foundry on a Scientific Basis—V..... 107
Parry Jr., W. H., Foundry Core Print Rack 454
Perkins, F. M., A Few of the First Principles of Shop Planning..... 366
Perkins, F. M., Floating Foundry of the U. S. S. Vestal..... 211
Pero, J. P., Malleable Iron Difficulties.... 165
Pero, J. P., Manufacture and Uses of Malleable Iron 141
Phelps, S. B., An Inexpensive Base Plate Pattern 466
Pitman, R. A., Blow-Holes and Sulphur... 95
Pitman, R. A., Chill and Shrinkage of Cast Iron 304
Pitman, R. A., Shot in Gray Iron Castings 103
Pitman, R. A., The Surface of Molten Cast Iron 365
Pollard, A. L., Standardizing Air Furnace Practice 412
Prince, W. F., Opportunities for the Foundry Engineer 63
Proctor, Charles H., The Economy and Efficiency of Copper Cyanide..... 199

R

Rance, Thomas A., Table Converting Millimeters to Inches.....
Data Sheets Nos. 199 and 200, December
Randolph, John A., Modern Practice in Electrical Arc Welding 316
Reynders, A. B., Holding an Electrical Manufacturer's Business 96
Rigg, Gilbert, and Henry C. Morse, Spelter Impurity in Slush Castings..... 494
Roubieu, S., and S. Muntz, Common Sense-Steel Foundryman's Great Asset..... 175
Russell, H. A., Perpetual Inventory of Rough Castings..... 481
Russell, H. A., Where's That Pattern? and How to Locate It 263

S

Schaefer, C. T., A Gear Tooth Jig..... 243
Scillitoe, Edgar L., Making a Herringbone Grate Pattern..... 184
Sendner, J. L., Making Cores for an Intricate Casting 143
Sendner, J. L., Top-Pouring Brass Liners. 231
Skillman, V., Brinell Hardness-Testing of Non-Ferrous Alloys..... 111
St. Clair Jr., Theo. A., A Practical Follow-Up System for the Foundry..... 319

T

Thrasher, Grafton M., Method for Controlling Chill in Cast Iron..... 491
Tonamy, C. H., Finding Blow-Holes With the X-Rays 455
Touceda, Enrique, Novel Tests of Malleable Cast Iron 13
Touceda, Enrique, Phosphorus Limit in Malleable Castings..... 447
Townsend, David, Operating the Cupola on a Scientific Basis..... 322
Tryon, W. L., Formulas for Specific Gravity, Etc., of Alloys.....
.....Data Sheet No. 188, June
Tryon, W. L., Weight of Balls or Spheres
Data Sheets Nos. 193 and 194, September
Tryon, W. L., Weights of Rods or Cylinders per Running Inch.....
..Data Sheets Nos. 177 and 178, January
Tryon, W. L., Weight of Rods or Cylinders per Running Inch.....
..Data Sheets Nos. 179 and 180, February
Tryon, W. L., Weight Per Cubic Foot and Per Cubic Inch.....
.....Data Sheet No. 187, June ..

U

Uhler, J. Lloyd, Dynamic Qualities of Cast Steel 417

V

Vaupel, Elmer A., Casting Iron Around Pipe 241
Vickers, C., How Titanium-Aluminum Bronze is Produced 273
Vickers, C., Molybdenum and Copper..... 344

W

Wallbank, E. W., Making a Cylinder Head Pattern 490
Wallbank, E. W., Shop Management and What It Means..... 299
Weber, Dr. Max S., Copper Cyanide Plating Solutions 197
West, F., A Place for Pattern Plates..... 303
West, Fred, Suggestions for Reading Working Drawings 464
West, Thomas D., Intoxication, a Cause of Foundry Accidents 267
West, Thomas D., Recent Improvements in Foundry Operations—I..... 483
Williamson, H. C., A New Metal Band Saw 328
Wolf, Fred L., and Robert B. Burr, Tests of Natural Gas-Fired Brass Furnaces... 153
Wood, R. E., A Promise-Keeper for the Foundry 227

Y

Yost, Clayton, The Chipping Boss as an Optimist 463

Data Sheets, Volume XLIII

January---December, 1915

Nos. 177 and 178, January, Weight of Rods or Cylinders per Running Inch.

Nos. 179 and 180, February, Weight of Rods or Cylinders per Running Inch.

No. 181, March, Recommended Practice for the Annealing of Carbon-Steel Castings.

No. 182, March, Recommended Practice for Heat-Treating Case-Hardened Carbon-Steel Objects.

Nos. 183 and 184, April, Metallurgical Temperature Chart.

No. 185, May, Patternmaker's Table for Rounding Corners.

No. 186, May, Useful Tables for Patternmakers.

No. 187, June, Weight Per Cubic Foot and Per Cubic Inch,

No. 188, June, Formulas for Specific Gravity, Etc., of Alloys.

Nos. 189 and 190, July, Table for Spacing Off Circles.

Nos. 191 and 192, August, Lengths of Chords for Segments of Different Circles.

Nos. 193 and 194, September, Weight of Balls or Spheres.

Nos. 195 and 196, October, Chords of Angles From One to Ninety Degrees.

Nos. 197 and 198, November, Outside Diameters for Polygons.

Nos. 199 and 200, December, Table Converting Millimeters to Inches.